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# Biotechnology Notes

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**Biotechnology Notes**, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

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## INSIDE USDA

### SCOPING OUT THE ISSUES

At its first meeting of 1990, USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC) discussed those policy issues that impact on the U.S. research community. ABRAC members, who are selected from outside the Department for their expertise in biotechnology, debated the scope of organisms to be covered in the proposed draft guidelines entitled "USDA Guidelines for Research with Genetically Modified Organisms Outside Contained Facilities." The issue of scope is being discussed as well by the Biotechnology Science Coordinating Committee (BSCC), a group comprised of representatives from the USDA, the Food and Drug Administration, the National Science Foundation, the Environmental Protection Agency, and the National Institutes of Health. BSCC's recommendations impact on all of those agencies; ABRAC recommendations affect mainly USDA-funded initiatives.

Charles Hess, USDA Assistant Secretary for Science and Education and the Department's representative on the BSCC, presented the deliberations of the BSCC working group on scope. That group proposed four options for resolving the question of scope. By and large, both the BSCC and the ABRAC endorsed the fourth option for defining the scope of organisms subject to oversight. In essence, this option is "processed based" and reads, in part, "The Subcommittee recommends the following definition for the scope of organisms subject to oversight for planned introductions into the environment: Organisms deliberately modified by the introduction into or manipulation of genetic material in their genomes, except for . . . (organisms from natural reproduction, conjugation, tissue culture, cell fusion, and nucleotide sequences that have no expressed product.)"

A number of organizations expressed their views on the scope issue, including the National Wildlife Federation, the Environmental Defense Fund, the American Chemical Society, the Association of Biotechnology Companies, and several seed companies. Some attendees expressed divergent views on the process/product aspect of the scope recommendations. Others claimed that the process/product distinction is not very useful and may in fact create confusion. Most agreed that the natural occurrence of organisms and familiarity with them does not necessarily imply freedom from risk.

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## CONFERENCE HELD ON STATE ROLE

Issues related to the states' role in the regulation of biotechnology was the topic at a committee meeting of the National Governor's Association held January 12 in Washington, D.C. Terry Medley, director of the Animal and Plant Health Inspection Service's (APHIS) Biotechnology, Biologics, and Environmental Protection (BBEP) unit, participated in the panel discussion before the staff committee on agriculture and world development. Other panelists were from the Industrial Biotechnology Association (IBA) and the State of North Carolina.

## OAB BRIEFS SWEDISH VISITORS

At the request of the Embassy of Sweden, members of the Office of Agricultural Biotechnology (OAB) met with representatives from that embassy's Office of Science and Technology and the director of the Institute for Future Studies in Sweden, January 30, at USDA. The Embassy and the Institute are engaged in a joint project concerning biotechnology developments and intend to hold an international seminar in Sweden.

The visitors were particularly interested in trends in research and development, current limitations on biotechnology, the impact of public awareness, risks to humans and the environment, possibilities for misuse of the technology, ethical issues, and the economic impacts of biotechnology. OAB Deputy Director Daniel Jones led the discussion, with assistance from Marti Asner, OAB public affairs specialist; and Jean Larson, information specialist on detail to OAB from the National Agricultural Library.

## ENVIRONMENTAL BIOTECHNOLOGY FOCUS OF INTERNATIONAL SYMPOSIUM

Val Giddings, senior staff geneticist with APHIS's BBEP unit has been invited to speak at an environmental biotechnology symposium, April 23-27, in Braunschweig, West Germany. Giddings' topic will be "Environmental Biotechnology and Environmental Protection Policies: Issues, Trends and Harmonization." Other agenda items include the ecology of pollution, prevention of environmental catastrophes, and research and development priorities. The symposium is sponsored under the auspices of the European Environmental Research Organization and the West German National Research Centre for Biotechnology.

## APHIS PLANS SECOND FEDERAL/STATE CONFERENCE

Based on the positive response from participants who attended the first APHIS-sponsored Federal/State conference last year in North Carolina, APHIS has decided to follow-up with a second meeting this summer in Sacramento, Calif. The scope of this meeting will be expanded to include representatives from foreign countries. The purpose of the conference is to continue the dialogue concerning Federal and State regulation of biotechnology products, environmental safety, and the role of public participation. More details about the conference will be published in upcoming issues of Biotechnology Notes.



## NEWS AROUND THE COUNTRY (AND THE WORLD)

### A WALE OF A MEETING

More than 450 scientists from the European Community and the United States gathered in Swansea, Wales, United Kingdom, January 9-11, to discuss biotechnology. "Gene Transfer in the Natural Environment" was sponsored by the Society for General Microbiology. Michael Schechtman, biotechnologist with APHIS's BBEP unit, presented a paper on USDA's regulatory and scientific considerations regarding planned introduction of genetically engineered organisms. Schechtman talked about APHIS's review process for releases of genetically engineered organisms and about the need for the scientific community to provide more data on the behaviour of microorganisms in the environment. Proceedings of the conference will be available in early 1991.

### PREPARING VETERINARIANS FOR BIOTECHNOLOGY

The Tufts University School of Veterinary Medicine in North Grafton, Mass. and the Worcester Polytechnic Institute in Worcester, Mass. have developed a unique dual-degree program to educate veterinarians for careers in biotechnology. Those enrolled spend 4 years pursuing a doctor of veterinary medicine degree at Tufts. Another year and a summer are spent at Worcester Polytechnic Institute, taking individually selected courses in areas such as rDNA, and conducting hands-on thesis work toward a master of science degree in applied biotechnology. To learn more about the program, call Cristin Merck at 508-839-5302, extension 4775.

### HIGH SCHOOL STUDENTS LEARN ABOUT rDNA

Thanks to the National Institute of Electromedical Information (NIEI), high school students in Fresh Meadows, New York are getting hands-on experience in biotechnology. The NIEI developed and field tested a lab-oriented course in rDNA and genetic engineering. The course is now being taught at Francis Lewis High School in New York, with equipment donated by two major electromedical firms, Hoefer Scientific Instruments and Polysciences. To learn more about NIEI, a group of 1,200 health care practitioners, medical educators, and research scientists who promote education and research in the electromedical sciences, or the rDNA/genetic engineering program, call Stanley Kornhauser, Executive Director of NIEI, at 718-591-2129.

### LONG DISTANCE DIALOGUE ON BIOTECH

U.S. and West African scientists discussed agricultural biotechnology via an audio-linked satellite broadcast by the U.S. Information Agency last November. Alan Goldhammer, director for technical affairs at the IBA and David MacKenzie, director of USDA's National Biological Impact Assessment Program, shared views with scientists and administrators from West African agriculture ministries, universities, and institutes. The African experts were interested in how biotech might help to preserve plant genetic resources, improve those plants important to developing countries, and lessen problems associated with saline soil, aluminum toxicity, and drought.

## IN CASE YOU WEREN'T THERE

- On January 24, Shivramiah Shantharam, APHIS BBEP unit biotechnologist, gave a talk on transgenesis and the environment at the Memorial University in Newfoundland, Canada. He discussed the scientific and regulatory concerns of genetic engineering and the merits of biological safety containment procedures. Canada's interest in field testing is sparked, in part, by microbes it recently retrieved from the Arctic. The organisms are being genetically engineered and may be ready for field testing in the not too distant future.

## NEW PUBLICATIONS

- "North Carolina Aquaculture Development Report." Report focuses on hybrid striped bass, rainbow trout, crawfish, catfish, and soft-shell blue crab. Features production plans for each species, strategies for processing and marketing, and scientific, economic, and legal constraints. The report costs \$5 per copy and may be ordered by calling DuRhonda Edwards at 919-541-9366.
- Marine Toxins: Origin, Structure, and Molecular Pharmacology. Edited by Sherwood Hall, U.S. Food and Drug Administration, and Gary Strichartz, Harvard Medical School. February 1990. Published by the American Chemical Society. \$74.95. To order, call 202-872-4600.
- Downstream Processing and Bioseparation: Recovery and Purification of Biological Products. Edited by Jean-Francis Hamel, MIT, Jean Hunter, Cornell University, and Subhas Sikdar, National Institute of Standards and Technology. February 1990. Published by the American Chemical Society. \$69.95. To order, call 202-872-4600.
- USDA Plant Genome Mapping Program: Science and Technology Coordinating Committee. Meeting summary. August 30-31, 1989. Copies available, free-of-charge, by calling 301-344-2029.
- "Consumer Effects of Biotechnology," written by John Reilly. This is a new report from USDA's Economic Research Service. The report says consumers will be, for the most part, unaware that new products have a biotech component, because upcoming advances will only have a modest effect on the quality and cost of consumer food products. In 20 years, however, the cumulative effects of many small changes are likely to have resulted in revolutionary changes in agriculture and food processing. Further, while biotechnology is unlikely to result in dramatic reductions in the cost of producing food and fiber, it is a necessary research tool to maintain the rates of productivity gains and declines in food costs to which consumers have become accustomed. The report can be ordered by calling 1-800-999-6779.
- "Biological Products for Aquaculture--A Worldwide Market Study on Vaccines, Therapeutics, Diagnostics, Hormones and Genetic Manipulations." A new report published by the Technology Management Group of New Haven, Conn. For information on ordering, call N. Lundeen at 203-786-5445.
- "Solving Agricultural Problems with Biotechnology." Prepared by USDA's Agricultural Research Service. Issued January 1990. Copies available by calling 301-344-3918.



- "Instrumentation and Equipment Survey for Agricultural Biotechnology," prepared by the Committee on Biotechnology, Division of Agriculture, National Association of State Universities and Land-Grant Colleges. November 1989. To order a copy, call 202-778-0855.
- Gene Transfer in the Environment, by Stuart B. Levy and Robert V. Miller. McCraw-Hill, New York, 1989. \$54.95.

### UPCOMING MEETINGS

Feb. 9: "Biotechnology and Patenting from a European Perspective." Boston, Mass. Seminar hosted by Tufts University School of Veterinary Medicine and sponsored with industry support. Free. Call 508-839-5302, ext. 4750 for details.

Feb. 14-20: Annual Meeting of the American Association for the Advancement of Science. New Orleans, La. Call 202-326-6448.

Feb. 26-Mar. 2: First European-Australian Bioindustry Meeting. Melbourne, Australia. For more information, write to N. Rau, RauCon, P.O.B. 1069, D-6912 Dielheim, F.R.G.

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March 7-8: "Safe and Healthy Eating: New Policies to Restore Public Confidence." Sponsored by Public Voice for Food and Health Policy in cooperation with the National Food Processors Association. Call 202-659-5930.

March 11-14: "Trends in Biotechnology." Stockholm, Sweden. Sponsored by the Swedish Council for Forestry and Agricultural Research and the Swedish rDNA Advisory Committee. For details, write to the Swedish Council for Forestry and Agricultural Research, Odengatan 61, S-113 22 Stockholm, Sweden; or call 46-8-7360910. The FAX number is 46-8-332915.

March 15: "Strategic Planning and Management for the Biotechnology Firm," a lecture given by William Washecka of Ernst & Young. Sponsored by Montgomery County, Maryland's High Technology Council. Gaithersburg, Md. For details or to make a reservation, call 301-762-6325.

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April 2: The French Presence in Biotechnology Worldwide. Los Angeles, Calif. Write to Barbara Hearn, French-American Chamber of Commerce Los Angeles, Inc., 6380 Wilshire Blvd., Suite 1608, Los Angeles, Calif. 90048.

April 3-5: "AgTechnology '90: The Decade Ahead." Conference focuses on plant and animal biotechnology, new information systems, and the latest in products and services for high-tech ag companies and labs. For more information, write to Freiberg Publishing Co., P.O. Box 7, Cedar Falls, Iowa 50613.

April 9-12: Plant Resistance to Insects: Toward a More Sustainable Agriculture. To be held at the Maryland Continuing Education Center, College Park, Md. For more

details, write to B.R. Wiseman, USDA-Agricultural Research Service, P.O. 748, Tifton, Ga. 31793; or call 912-382-6904.

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Biotechnology Notes is written and edited by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Suggestions for items to include in future issues are always appreciated and may be sent to USDA/OAB, Room 321-A, Administration Bldg., 14th and Independence Ave., S.W., Washington, D.C. 20250; or call 202-447-9165. The FAX number is 202-447-6488.





## NOTES